Patented Nov. 19, 1935 2,021,448

UNITED STATES PATENT OFFICE

2,021,448

SOLUBLE PENETRATING FLUID

Dudley K. French, Winnetka, Ill.

No Drawing. Application December 10, 1932, Serial No. 646,718

1 Claim. (Cl. 87—5)

My invention relates to soluble penetrating fluid.

One of the objects of my invention is to provide a fluid having penetrating qualities for the removal of dirt, grease and rust, particularly from metal and from lacquered and other coated surfaces, and to render the same permanent so that the ingredients will not separate after standing a considerable period. In other words, one of the objects of the invention is to provide a fluid composition which will be permanent, comparatively inexpensive, and which will permanently remain in solution or at least thoroughly emulsify.

Another object is to produce a fluid of this character which is easily emulsifiable in water in which a small percentage of this same fluid has been dissolved.

Still another object is to provide a fluid of this character, which, upon exposure to the air, will partially evaporate or become "tacky" to an extent sufficient to form a protective coating. This property makes it appropriate for use, for example, during the trans-shipment of automobiles, which may be coated with the fluid, and thereby become protected against the effects of dust, soot, etc. Thus my fluid partakes somewhat of the character of so-called "dope" used for the protection of metallic and other surfaces.

Another object of the invention is to provide a fluid of this character which will be harmless when applied to enamels and similar coatings used for automobile fenders and the like.

Now to proceed to a description of the preferred form of the invention:

I take 60% by weight of kerosene and add to it 20% by weight of a sulphonated castor oil known as Turkey-red. To this mixture I add 20% by weight of a mixture of sulphonated cocoanut oil and rosin soap in the proportions of two-thirds of the oil and one-third of the rosin soap, to which is added a small amount (10 to 15%) of alcohol to facilitate saponification. The Turkey-red oil gives an acid reaction, whereas the second mixture, which is sulphonated cocoanut oil neutralized by rosin soap, gives an alkaline reaction.

When this compound is permitted to stand for even a short period, the parts tend to separate, but I have discovered that it may be rendered permanent by adding approximately ½ of 1% alcohol to the mixture. If the percentage of alcohol should exceed 1%, the body will again tend to separate. The less than 1% of alcohol added stabilizes the fluid and maintains it as a permanent solution.

My fluid is highly effective as a penetrating oil and as a detergent, and it also has the following additional property which is of great value: When a coating of the fluid is applied to the surface of automobiles, for example, and permitted to stand, it will, within a period of about twenty-four hours, form a firm "tacky" coating which is capable of protecting the surface from the effects of dust, soot, etc. This coatting is waterproof in the sense that it will not wash off when exposed to rain. It may be removed, however, in the following manner: A small amount, for example a tablespoonful, of my fluid is added to and mixed with approximately one-half pail of water. The fluid readily becomes dissolved in the water, whereupon the mixture is applied to the coated surface by means of a brush, mop or the like. This softens and dissolves the coating so that the whole may be removed by merely subjecting the surface to water from a hose. It is hardly necessary to wipe the surface dry, because of the completeness with which the water will run off. The surface will be bright and shiny, except possibly in a few places where an excessive amount of the fluid may have collected.

It is my understanding that the kerosene serves to dissolve and cleanse the grease and dirt from the surface to be cleaned, and that the emulsifying agents act largely as carriers, although it may be true that they also have a cleansing effect. In any event, my fluid composition is effective not only as a penetrating material, but as a means by which a protective coating may be readily applied to surfaces, especially lacquered, ducoed, and similarly treated surfaces which may have occasion to be subjected to dirt and grit during storage, transit or travel.

Objects other than automobiles may be similarly protected. For example, I have found that by coating window screens with the fluid in the fall of the year, they will be protected during the winter season, and in the spring, the coating may be readily removed by simply mopping the screens with a solution of a small percentage of my fluid mixed with water to soften the coating, after which the surface may be cleansed and brightened by squirting or otherwise treating it with water.

It will be understood that the purpose of the emulsifying agents is to emulsify or carry the kerosene. The greatest amount of kerosene that can be emulsified is 60% by weight as against

40% of the emulsifying agents, but the amount of kerosene employed in the composition may be less than 60%. The emulsifying base, however, is more expensive than the kerosene and is less effective in its penetrating and cleaning qualities, and hence it is desirable to use the maximum percentage of kerosene. When the composition is to be removed from any surface upon which a water solution thereof has been allowed to set, the surface is brushed with a mop or other implement saturated with water into which a small amount of the composition has been mixed. Thereafter the surface is thoroughly cleaned by squirting it with a hose or otherwise treating it with water.

What I claim as new and desire to secure by Letters Patent is:

A permanent solution consisting, substantially in the proportions by weight named, of a mixture of kerosene, sixty percent, sulphonated castor oil, twenty percent, sulphonated cocoanut oil neutralized by rosin soap, twenty percent:—stabilized by less than one percent of alcohol,—the solution being characterized by the fact that when alcohol in excess of one percent is mixed with it, the elements of the mixture will separate; and that it will form a permanent emulsion giving an alkaline reaction when mixed with water in excess of its volume.

DUDLEY K. FRENCH.